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Taxes or Tolls
Private Capital and Public Infrastructure

North Carolina

Legislative Study Commission on PPP

November 30, 2010

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The U.S. is on the verge of a "perfect storm" in funding civil infrastructure

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U.S. infrastructure needs are huge

Aviation	D
Bridges	C
Dams	D
Drinking Water	D-
Energy	D+
Hazardous Waste	D
Inland Waterways	D-
Levees	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D-
Schools	D
Solid Waste	C+
Transit	D
Wastewater	D-

AMERICA'S INFRASTRUCTURE G.P.A.	D
ESTIMATED 5 YEAR INVESTMENT NEED	$2.2 TRILLION

CATEGORY	5-YEAR NEED (BILLIONS)	ESTIMATED ACTUAL SPENDING*	AMERICAN RECOVERY AND REINVESTMENT ACT (P.L. 111-005)	FIVE-YEAR INVESTMENT SHORTFALL
Aviation	87	45	1.3	(40.7)
Dams	12.5	5	0.05	(7.45)
Drinking Water and Wastewater	255	140	6.4	(108.6)
Energy	75	34.5	11	(29.5)
Hazardous Waste and Solid Waste	77	32.5	1.1	(43.4)
Inland Waterways	50	25	4.475	(20.5)
Levees	50	1.13	0	(1.13)
Public Parks and Recreation	85	36	0.835	(48.17)
Rail	63	42	9.3	(11.7)
Roads and Bridges	930	351.5	27.5	(549.5)
Discretionary grants for surface transportation			1.5	
Schools	160	125	0**	(35)
Transit	265	66.5	8.4	(190.1)
	2.122 trillion***	908 billion	71.76 billion	(1.176 trillion)
Total Need**	**$2.2 trillion**			

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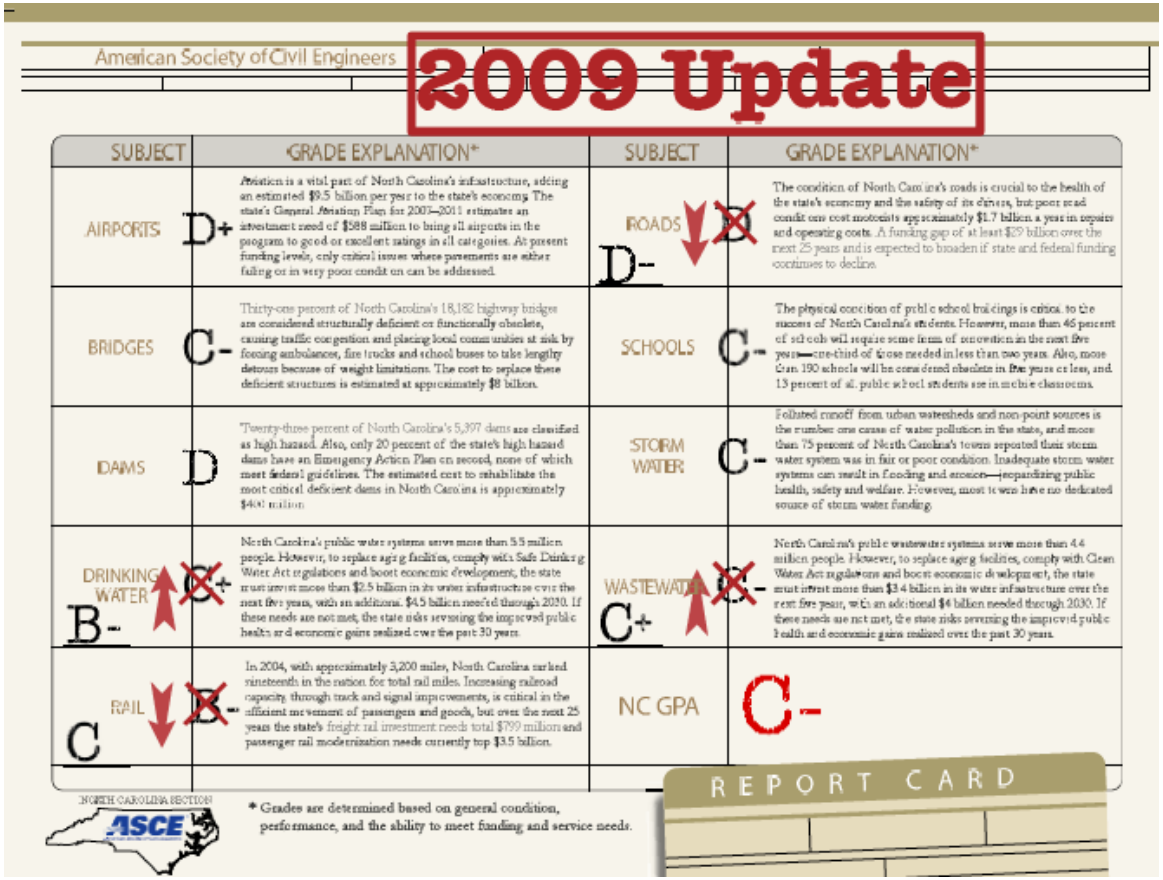
North Carolina's needs are formidable



American Society of Civil Engineers

2009 Update

SUBJECT	GRADE	EXPLANATION*
AIRPORTS	D+	Aviation is a vital part of North Carolina's infrastructure, adding an estimated $9.5 billion per year to the state's economy. The state's General Aviation Plan for 2003–2011 estimates an investment need of $588 million to bring all airports in the program to good or excellent ratings in all categories. At present funding levels, only critical issues where pavements are either failing or in very poor condition can be addressed.
BRIDGES	C-	Thirty-one percent of North Carolina's 18,182 highway bridges are considered structurally deficient or functionally obsolete, causing traffic congestion and placing local communities at risk by forcing ambulances, fire trucks and school buses to take lengthy detours because of weight limitations. The cost to replace these deficient structures is estimated at approximately $8 billion.
DAMS	D	Twenty-three percent of North Carolina's 5,397 dams are classified as high hazard. Also, only 20 percent of the state's high hazard dams have an Emergency Action Plan on record, none of which meet federal guidelines. The estimated cost to rehabilitate the most critical deficient dams in North Carolina is approximately $400 million.
DRINKING WATER	B- ~~C+~~ C+	North Carolina's public water systems serve more than 8.5 million people. However, to replace aging facilities, comply with Safe Drinking Water Act regulations and boost economic development, the state must invest more than $2.5 billion in its water infrastructure over the next five years, with an additional $4.5 billion needed through 2030. If these needs are not met, the state risks reversing the improved public health and economic gains realized over the past 30 years.
RAIL	C ~~B-~~	In 2004, with approximately 3,200 miles, North Carolina ranked nineteenth in the nation for total rail miles. Increasing railroad capacity, through track and signal improvements, is critical in the efficient movement of passengers and goods, but over the next 25 years the state's freight rail investment needs total $799 million and passenger rail modernization needs currently top $3.5 billion.

SUBJECT	GRADE	EXPLANATION*
ROADS	D- ~~D~~	The condition of North Carolina's roads is crucial to the health of the state's economy and the safety of its citizens, but poor road conditions cost motorists approximately $1.7 billion a year in repairs and operating costs. A funding gap of at least $29 billion over the next 25 years and is expected to broaden if state and federal funding continues to decline.
SCHOOLS	C-	The physical condition of public school buildings is critical to the success of North Carolina's students. However, more than 46 percent of school will require some form of renovation in the next five years—one-third of those needed in less than two years. Also, more than 190 schools will be considered obsolete in five years or less, and 13 percent of all public school students use in mobile classrooms.
STORM WATER	C-	Polluted runoff from urban watersheds and non-point sources is the number one cause of water pollution in the state, and more than 75 percent of North Carolina's towns reported their storm water system was in fair or poor condition. Inadequate storm water systems can result in flooding and erosion—jeopardizing public health, safety and welfare. However, most towns have no dedicated source of storm water funding.
WASTEWATER	C+ ~~C-~~	North Carolina's public wastewater systems serve more than 4.4 million people. However, to replace aging facilities, comply with Clean Water Act regulations and boost economic development, the state must invest more than $3.4 billion in its water infrastructure over the next five years, with an additional $4 billion needed through 2030. If these needs are not met, the state risks reversing the improved public health and economic gains realized over the past 30 years.
NC GPA	C-	

NORTH CAROLINA SECTION ASCE

* Grades are determined based on general condition, performance, and the ability to meet funding and service needs.

REPORT CARD

Top Three Concerns

1. Roads
2. Schools
3. Wastewater

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The Federal Highway Trust Fund is broke and relying on general fund transfers

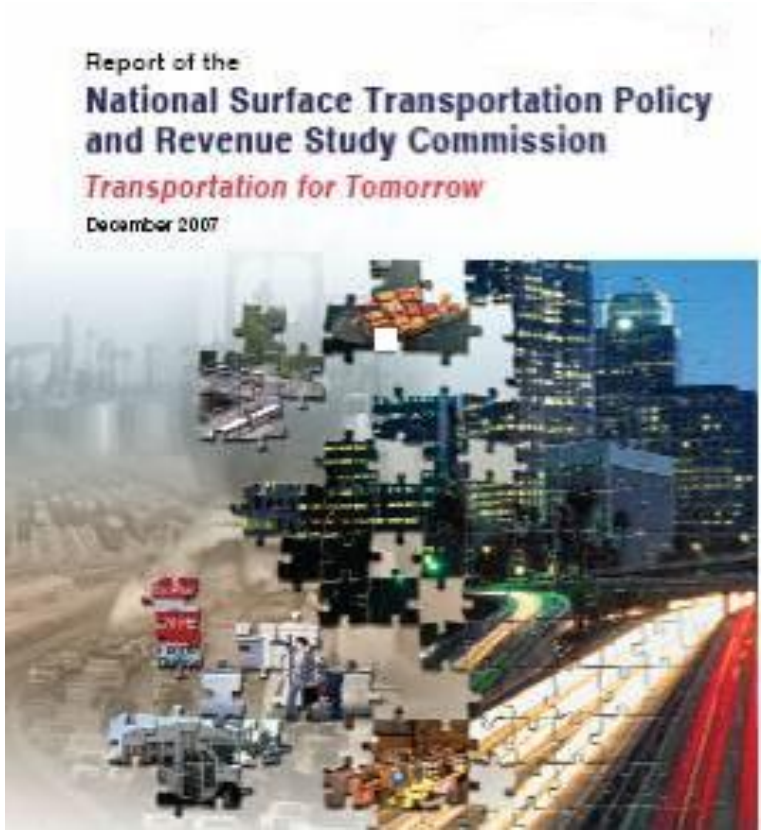
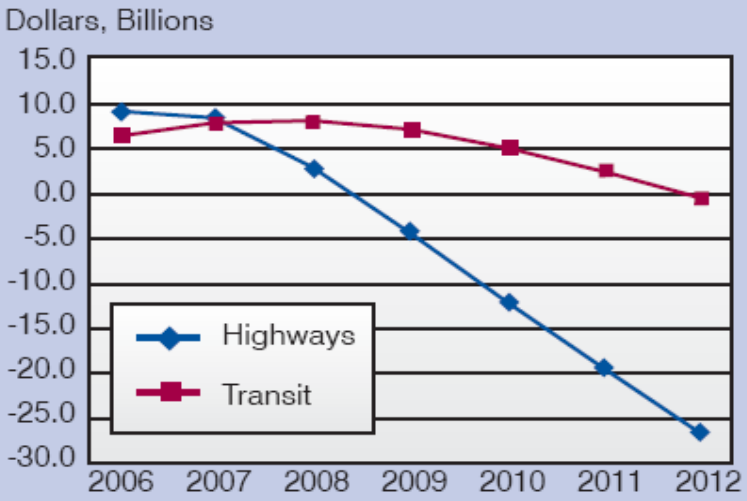


Exhibit 5-13. Projections of Highway and Transit Account Balances Through 2012



This exhibit shows projected balances in the Highway and Transit Accounts of the Highway Trust Fund through 2012 assuming no change in revenues or program levels.

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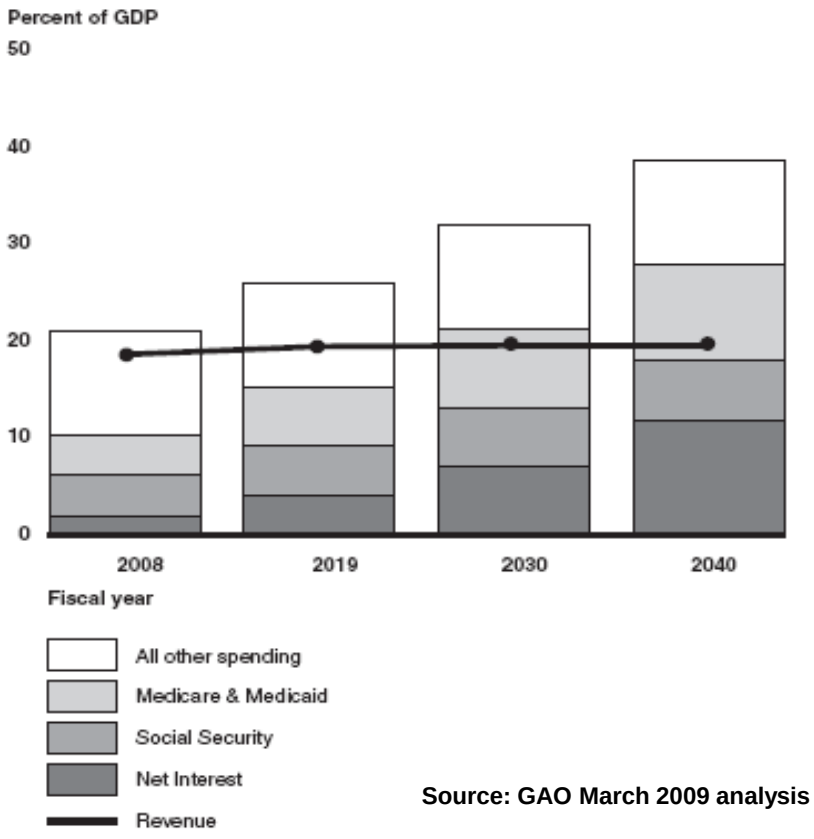
Barring drastic changes in policy, the Federal government is facing insolvency



Source: GAO March 2009 analysis

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Pension funds continue to be troubled and seeking value and stability

FT.com FINANCIAL TIMES UK

Investment losses hit public sector pensions Print

By Deborah Brewster in New York

Published: April 8 2009 03:00 | Last updated: April 8 2009 03:00

FT.com FINANCIAL TIMES UK

Double blow for pensions as values crash Print

By Deborah Brewster in New York

Published: April 8 2009 03:00 | Last updated: April 8 2009 03:00

THE WALL STREET JOURNAL. WSJ.com

APRIL 16, 2009, 10:12 P.M. ET

Calpers Weighs Expanding Own Hedge-Fund Investments

By JENNY STRASBURG and CRAIG KARMIN

In a move likely to be watched by peers, the giant California pension fund Calpers is considering expanding its own internal hedge-fund investments even as it presses established external funds to cut fees and make other client-friendly changes that many money managers have resisted.

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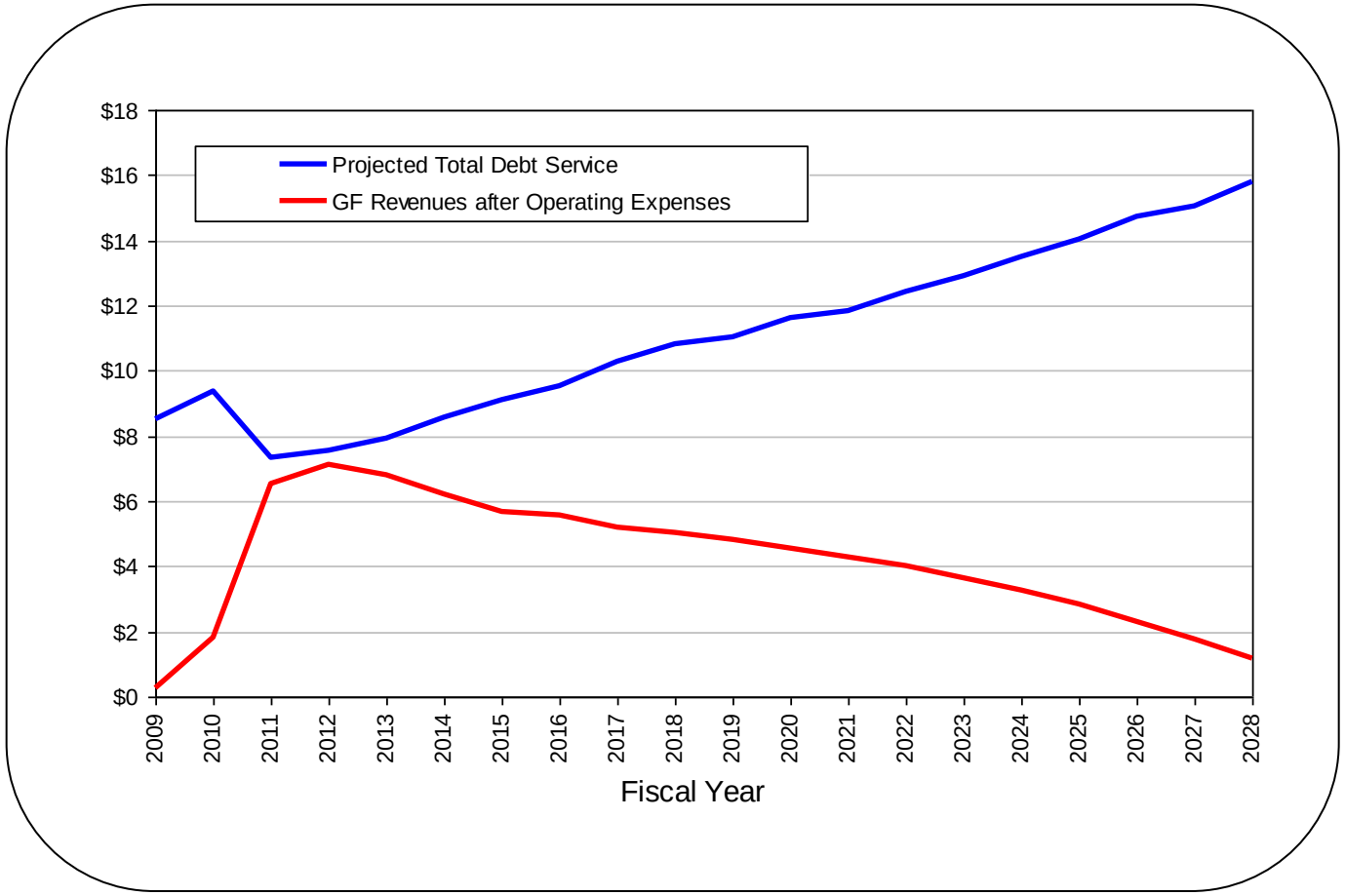
In many states, debt service will soon exceed available revenue



What is the traditional model for providing infrastructure?

- There is no "traditional model." There are many historical examples of cycling between public and private ownership and back again.
- In the United States and other countries, public ownership and regulation has occurred at the national, state, and local levels.
- Infrastructure spending patterns have generally been shaped by a period of neglect, followed by bursts of spending, followed by retrenchment and stability.

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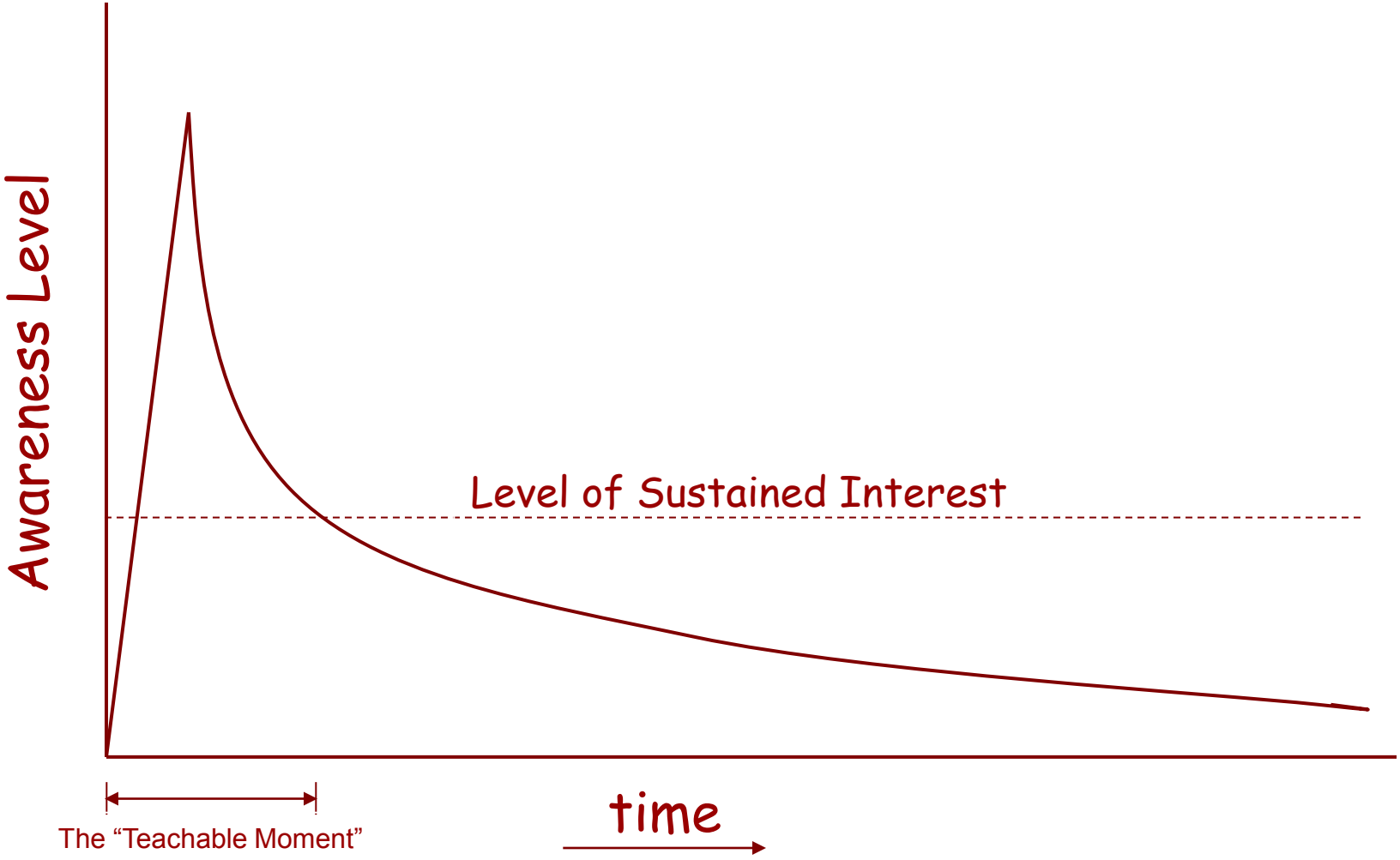
Infrastructure spending has historically followed "teachable moments"



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Two infrastructure "teachable moments"

Cuyahoga River, Ohio

Since the 1972 passage of the Clean Water Act, (The Federal Water Pollution Control Act Amendments of 1972, hundreds of billions of federal, state and local dollars have been invested to achieve our national clean water goals.

Silver Bridge, OH-WV

Multiple bridge collapses in the 1970's and 1980's led to the creation of the Highway Bridge Replacement and Rehabilitation Program (HBRRP) to improve the condition of the Nation's bridges.

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If these aren't "teachable moments," are we beyond learning?

New Orleans 2005

Minneapolis 2007

Los Angeles 2009

?

2011

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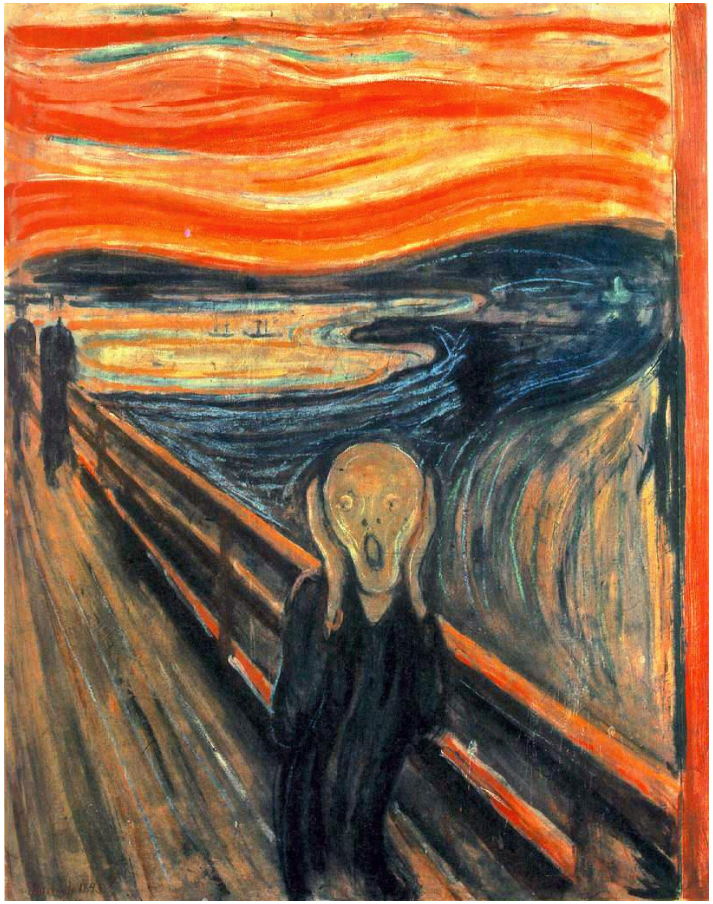
So, what should we do about infrastructure and how will we pay for it?



Before we answer that question, we need to address a basic public policy issue

Are infrastructure services a public good, a market commodity, or something in between?

The answer to this question has profound implications for how we should fund and finance infrastructure.

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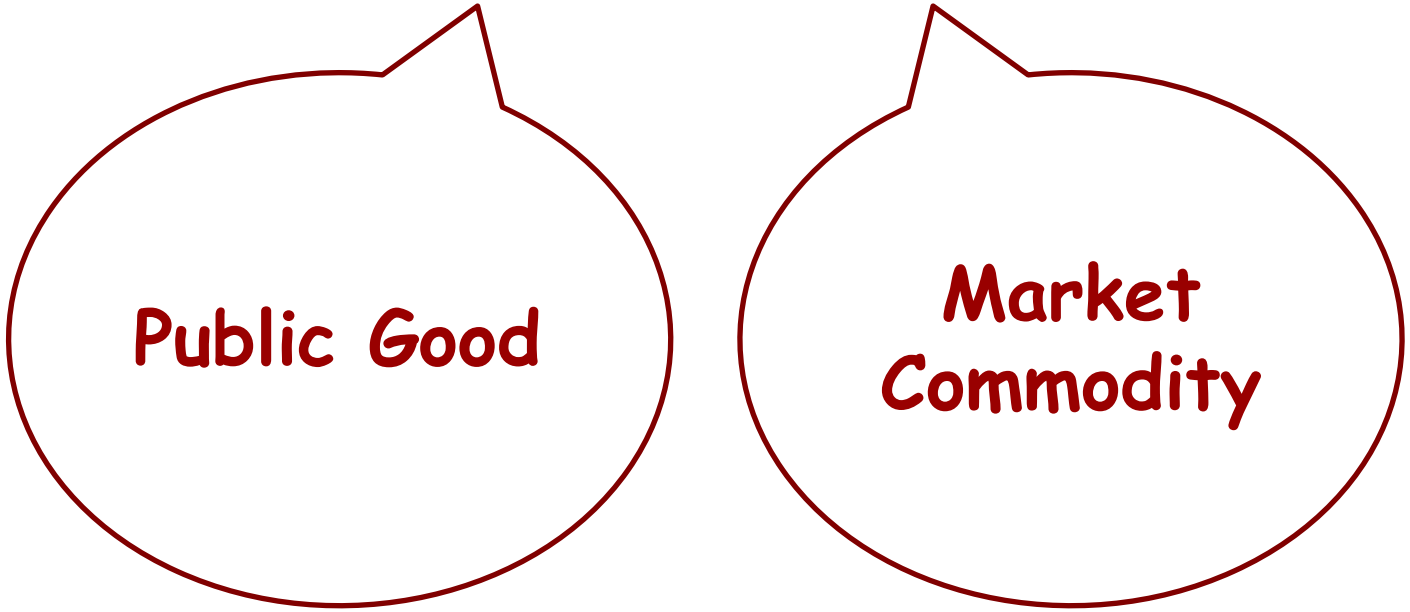
First, we need to address the harsh reality of infrastructure finance

There are two ways to pay for infrastructure, taxes or fees



If we will not support increased taxes to pay for infrastructure, we will need to charge fees!

This is not a simple binary decision!

or

Modern-day decisions are more complex!

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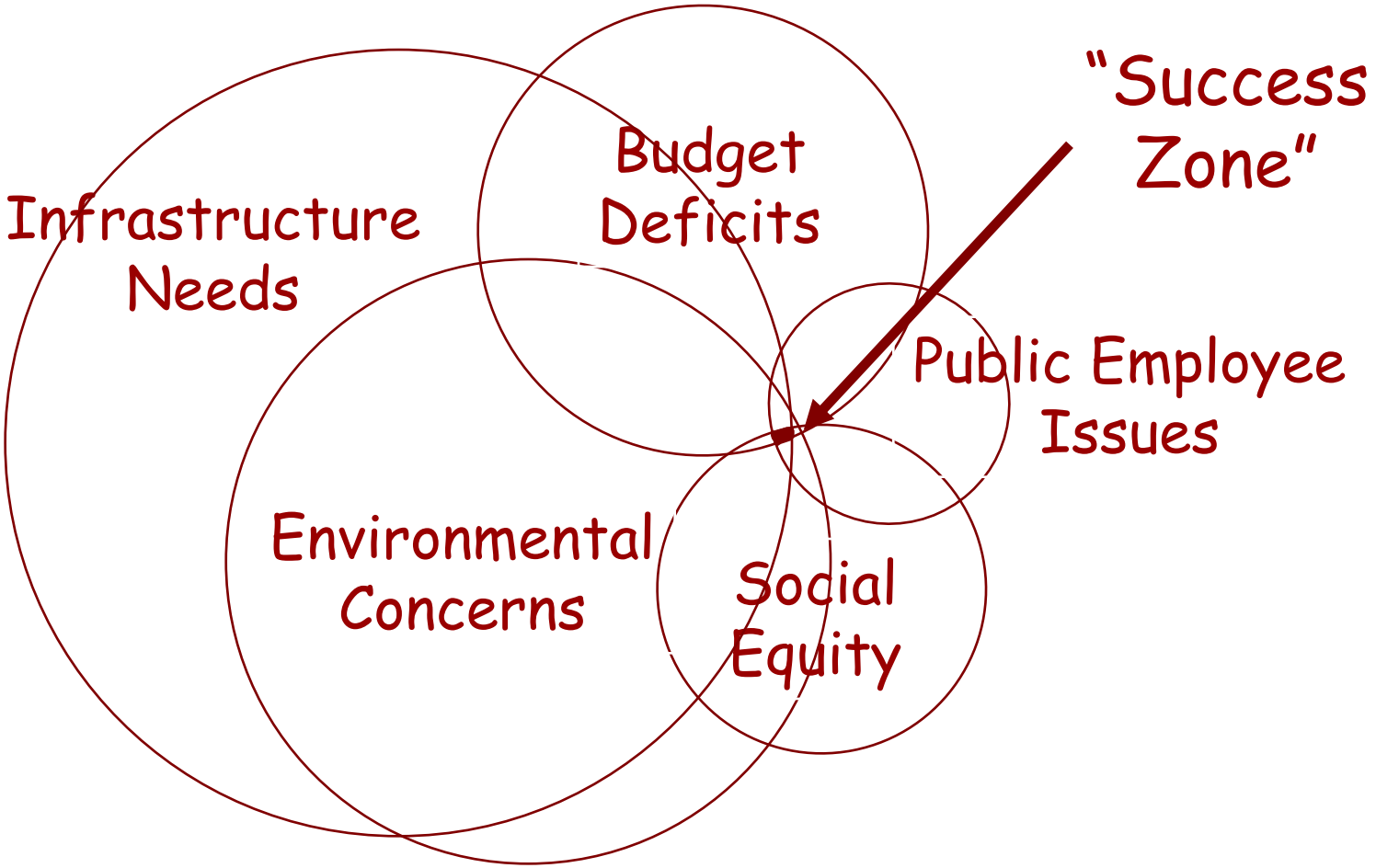
Today's decisions must achieve multiple objectives and satisfy many stakeholders



So, where will new money come from to make needed investments?

- More taxes, either general or targeted
- User fees where the beneficiary pays for services received
- Revenue from asset monetization
- Increased leveraging of public monies with private capital through a range of of financing tools and procurement methods

New ways of thinking about what we do, how we do it, and how it's paid for.

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PPPs-when public funding isn't enough

Public Private Partnerships (PPPs) are **CONTRACTUAL AGREEMENTS** between the public and private sectors wherein the private sector agrees to **DELIVER SERVICES** in exchange **FOR A FEE**.

"Brownfield" assets are already built and in operation (toll roads and bridges, water and sewer agencies). The attraction for the public sector is an up-front fee paid by the private party for the right to operate and maintain the facilities and collect revenue, usually for the long term.

"Greenfield" assets are new facilities. The private sector typically agrees to finance, design, build, operate, and maintain the infrastructure assets in exchange for a direct fee paid by users (tolls) or availability fees paid by the government. Because new facilities carry more risk, upfront payments are smaller if made at all. The public sector benefits by getting more infrastructure faster.

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PPPs-stretching funding and reallocating risk

Type	Description	Risk Transfer
Design-Bid-Build (DBB)	Design and construction contracts awarded separately to private sector engineering and contracting firms	
Design-Build (DB)	Combines the design and construction phases into one fixed-fee contract	
Design-Build-Operate-Maintain (DBOM) Build-Operate-Transfer (BOT)	Selected contractor is responsible for the design, construction, operation, and maintenance of the facility for a specified time	
Design-Build-Finance-Operate (DBFO) Design-Build-Finance-Operate-Maintain (DBFMO)	Similar to DBOM, but contractor is also responsible for all or a major part of the project's financing	
Build-Own-Operate (BOO)	The private partner owns the facility and is assigned all operating revenue risk and any surplus revenues for the life of the facility.	

The private sector agrees to take the risk of delivering services (time, cost, and quality certain) in exchange for a fee.

Some common risks in a PPP

- Political risks - unanticipated change in government, cancellation of a concession, unanticipated tax increases, arbitrary toll or fee imposition or increases, or new and unilateral regulatory policies
- Construction risks – design flaws, delays in land acquisition or environmental clearance, project delays, unanticipated site conditions, or poor contractor performance
- Operation and maintenance risks - physical condition of a concession facility, operator competence, poor construction quality
- Legal and contractual risks - concession warranty or incomplete or inadequate contracts
- Income risks - inaccurate estimates of traffic volume or revenue, construction of a competing facility that would reduce use or profitability
- Financial risks - inflation, interest rate fluctuations, highly leveraged positions, inability to refinance debt

PPP can work for a range of infrastructures

- Transportation
- Water and sewer services
- Solid waste disposal
- Municipal parking
- "Social" infrastructure (schools, hospitals, other public buildings)

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Project Finance – a key to many PPPs but a potential barrier to acceptance

Project finance is the method used to assemble the capital needed to finance major projects. It is based on highly leveraged, non-recourse lending against the cash flows generated by the project. The project entity, or Special Purpose Vehicle (SPV), has no liability beyond the specific project.

It is not a typical public finance tool and often not well understood!

How the financing typically works

- Tolls or fees will be determined based on projected hard and soft costs, operations, maintenance, reserves, ROI, and set based on political realities
- Availability payments may be used in support of or in lieu of tolls or other direct user fees
- The resulting revenue stream will be used to secure financing with 20%-30% private equity up front and the remainder as debt from commercial banks or other private and/or public sources
- The private operator can depreciate the asset for tax purposes
- At the end of the concession period, the public entity takes possession of the facility in a pre-specified condition and usually with some form of warranty

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What's the status of some commonly used sources of debt?

Most "innovative" financing approaches for infrastructure entail the use of new or existing revenue streams that can be used to amortize debt.

- Commercial bank loans, syndications, and "club deals"
- Build America Bonds (BAB) – taxable muni debt with federal interest rate subsidy (35% ➔ 28%)
- Private Activity Bonds (PAB) – tax exempt private debt used to provide "public" facilities
- TIFIA – below market federal loans and loan guarantees
- Infrastructure banks
- Direct lending by pension funds, other institutional investors, and private individuals

Theoretically, some combination of these approaches could be applied to any stable revenue stream!

What are some other ways the private sector can participate?

- Special Districts

  Property owners can vote to assess themselves additional millage on the property tax rate to pay for improvements or services that will benefit their properties.

- Tax Increment Financing

  Infrastructure is provided within an area by a public agency using tax-exempt debt. Taxes generated by the increase in property values is used to pay debt service.

- Value Capture

  Private developers can contribute to the provision of infrastructure in exchange for increased development intensity on property that will be served by the improvements. This is often used around transit and rail stations as an incentive.

Critical questions for the public sector to consider about PPP

- What do we want to accomplish?
- Do we have sufficient resources to achieve our objectives?
- What is the right mix of funding and financing approaches for the revenue we do have?
- How do we balance efficiency in delivery with other objectives (e.g. environmental protections, DBE concerns, and social equity)?
- Who controls the process; federal, state, local, or private interests?

Questions the private sector will consider before going forward

- Will infrastructure meet investment objectives?
- Is there sustainable political commitment to the PPP process?
- Will commercial financing and government guarantees be available at terms and tenor to ensure project success?
- Can the risks allocated to the private sector be managed successfully?
- Is the public partner an "educated owner" that understands the PPP process?

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Can PPPs become a significant model for infrastructure finance?

Government wants:

- infrastructure to support economic growth and quality of life
- minimum life-cycle costs
- adequate & timely maintenance and repair
- "off budget" capital improvements

Investors want:

- steady, stable long-term return on capital
- opportunity to take advantage of value "locked" in public assets
- ability to use innovation to improve productivity and meet performance goals

The Public wants:

- Good, reliable service at a fair price

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What's the key to unlocking infrastructure investment through PPP?

- Clear and explicit understanding of the goals and objectives of the public and private sectors
- Realization that without new revenue, the benefits of new financing tools will be limited
- Don't exclude existing project delivery organizations, incorporate them into the process when possible
- Involve all the stakeholders and maintain transparency and accountability throughout the process
- Capable, knowledgeable people on both sides on both sides of the transaction

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The U.S. PPP market for transportation is alive and well!

- Strong highway programs exist in Texas, Florida, and Virginia
- California, Georgia, and Puerto Rico are moving forward aggressively to develop PPP programs
- Several other states (Nevada, North Carolina, Oregon, Utah, Louisiana) are looking to establish PPP programs
- Complex capital structures are the norm (BABs, PABs, TIFIA, private equity, pension funds)
- Parking concessions are popular with many cash-strapped communities
- High-speed rail is moving forward but has many pitfalls

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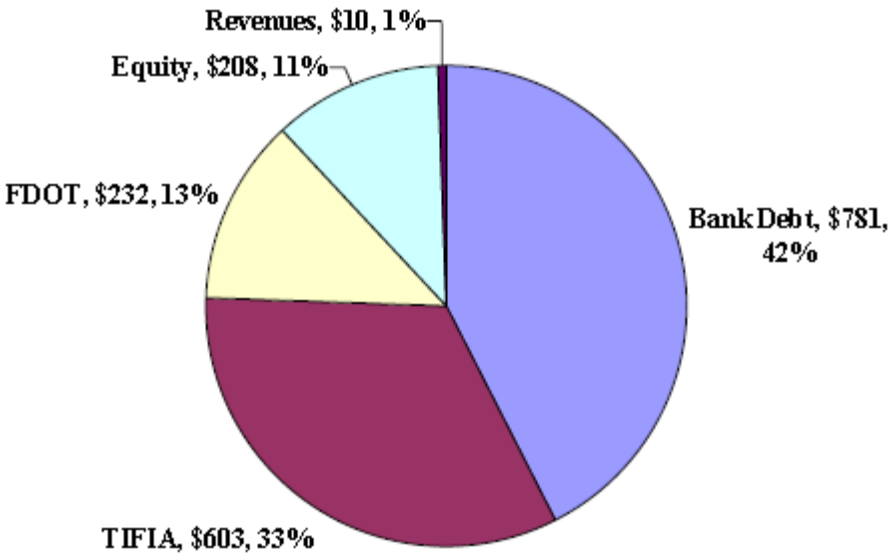
Florida I-595 – a successful U.S. PPP

The Florida I-595 PPP is a $1.8 billion, 35-year DBFOM concession on a 10.5 mile portion of the highway in Broward County, north of Miami. The deal reached financial close on March 3, 2009.

Financing

$800 million - Bank Debt
$600 million – TIFIA* Loan
$232 million – FDOT
$200 million – Equity
$ 10 million – Revenue



This is the first highway PPP in the US to use an availability payment scheme.

*Transportation Infrastructure Finance and Innovation Act

Project Finance: Current Realities

- The disarray has largely cleared, private capital markets are seeking good deals, many UK and EU players looking at the US
- New sources of capital
  - Commercial lending is still somewhat constrained
    - syndications stalled, more club deals, new players
  - Local public banks could have a bigger role
  - More direct investment, pension funds and other annuity providers could have a major role
- Lower debt/equity ratios; 90/10 →70/30, shorter tenors
- Overall, the industry has become more conservative, less risk tolerance, Brownfield vs. Greenfield, availability fees vs. tolls

Asset "monetization" – fad or the future?

In exchange for a lump sum up-front payment to a governmental unit, a private entity will take over the operation of a revenue producing public asset. The private entity will collect revenues, operate and maintain the asset, and turn it back to the public sector at the end of the concession period (>25 years).

Popular assets include parking, toll roads, and water utilities but any governmental service that produces revenue could be monetized in this manner. The proceeds can be used to pay for other infrastructure or offset other budget demands.

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The state of U.S. pension wealth

- OASI Trust Fund ≈ $5 Trillion
- Public Pension Funds ≈ $2 Trillion
- IRAs and 401K ≈ $6.5 Trillion
- Total > $13 Trillion and growing

☺ There is ample pension capital available to invest in revenue-backed U.S. infrastructure projects if appropriate instruments are developed!

Some of the concerns a PPP must address

Value for Money – making sure the desired services are provided at the same or less cost over the project lifecycle

Transparency – negotiating in open competition with details available for public scrutiny and accountability well defined

Workforce Issues – making sure that DBE and public employees are provided with opportunity to participate

Social Equity – making sure that all groups have equal access to basic services

Environmental Protection – making sure that efficiency does not compromise appropriate environmental safeguards

Risk Management – ensure that all parties assume responsibility for the risks they are best prepared to manage

Accountability – holding both sides of the negotiation accountable for meeting contract provisions and pre-determined performance goals

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Some myths about infrastructure provision and finance

Myth	Fact
Increasing the gas tax will cripple the economy and stall recovery	If you drive 20,000 mpy in a 20 mpg vehicle, a 10¢/gal increase in the gas tax will cost you 27¢/day.
PPP are always more expensive than publicly-run projects because the public sector can issue tax-free debt and an SPV must borrow at commercial rates	Because of debt limits and revenue constraints, the public sector cannot always issue debt. The choice often is not PPP or public delivery, it's PPP or no project.
Only the public sector can be trusted to provide certain basic services such as water	The private sector provides many basic services throughout the country with no loss of quality or safety.
The poor will be excluded if projects are supported by fees	Tolls can be subsidized for the poor and availability fees can make direct payment unnecessary.

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We will need to experiment with a range of options to see what works best

"Let them innovate in nothing, but keep the traditions"

Pope Saint Stephen (254-257)

The "old ways" are no longer performing acceptably!

Thank you!

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